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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,098	07/08/2003	Teunis Dekker	ISCAT-005A	8653

7590 05/24/2010
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EXAMINER

HANLEY, SUSAN MARIE

ART UNIT	PAPER NUMBER
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1651

MAIL DATE	DELIVERY MODE
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05/24/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/615,098	Applicant(s) DEKKER ET AL.	
	Examiner SUSAN HANLEY	Art Unit 1651	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 February 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 12-22, 33-43, 46, 51 and 52 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 12-22, 33-43, 46, 51 and 52 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election of lard (glycerides) in the reply filed on 4/17/09 is again acknowledged.

Claims 1, 10-22, 31-43, 46, 51 and 52 are under examination.

Withdrawal of Rejections

The rejections and objections not explicitly restated below are withdrawn due to Applicant's response in the amendment filed 2/11/2010.

Claim Rejections - 35 USC § 103

Response to Arguments

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 12-22, 33-42 , 51 and 52 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Bernier et al. (US 6,267,953; item 9 in the IDS filed 1/5/04) in view of Braks et al. (2000), Greenbaum et al. (US 3,220,921) , Lin et al. (US 6,425,202) and Hawley et al. (US 2,733,2521) for the reasons of record in the last Office action and as state herein.

Applicant argues that the claims require combining a lipid based media that consists only of lard or a glyceride with microorganisms found on the skin of the host vertebrate and operative to excrete enzymes which modify the media (or the excreted enzymes themselves in place of the microorganisms) and collecting the modified lipid

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based media. Applicant submits that the cited references do not teach or suggest these steps.

Applicant argues that Bernier teaches a synergistic blend of two formulas whereas Applicants claim uses only a single lipid chosen from lard or a triglyceride. Applicant asserts that none of the references teach or suggest combining non-naturally occurring lard or triglycerides with microorganisms of the type found on the skin host. Applicant argues that Braks is not understood to teach or suggest that enzymes produced from the microorganism themselves would provide any functionality in creating a vertebrate hoist mimic.

Applicant further argues that the instant claims never recite the use of sweat as taught by Braks or the use of a synergistic combination as taught by Bernier.

Applicant's arguments have been considered but they are not persuasive.

Regarding Applicant's assertion that the references do not teach a composition wherein the lipid consists of a triglyceride, these claims are no longer rejected by the combination of these references. New art has is applied in response to the amendment. See below.

Regarding Applicant's argument that the combined references do not teach the claimed steps, they are implicit in the references since the Bernier teaches making his mixture and using it to attract insects. Hence, the mixture must be made and collected. Responding to Applicant's argument that none of the references teach the instant invention of lard and microorganisms found on the skin of a host or the use of a

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synergistic composition as taught by Bernier, as noted in the rejection of the last Office action, it would have been obvious to employ lard as an insect attractant since it is a nutrient source for mosquitoes. It would have been obvious to combine lard with sweat that provides microorganisms and enzymes since they have the same function and would have an additive effect in attracting mosquitoes. Furthermore, as noted in the last Office action, it would have been obvious to one of ordinary skill in the art, a biochemist, at the time the invention was made to substitute the lard/sweat composition taught by the combined references of Braks, Hyatt and Hawley for the chemical blend in the traps taught by Bernier. The ordinary artisan would have been motivated to do so because each composition is known to have the same function, attracting insects. Hence, the substitution is no more than the predictable use of prior art elements according to their established functions resulting in the simple substitution of one known element for another.

Regarding Applicant's argument regarding the functionality of enzymes excreted by the microorganisms of Braks in creating a vertebrate host mimic, the claims require that the microorganisms are "operative to excrete enzymes which modify the media" or that the "enzymes are operative to modify the lipid based media". In the first case, microorganisms are naturally capable or "operative" to produce and excrete enzymes. In the second case, the enzymes operatively modify the media since they are now combined with the lipid based media. The enzymes naturally provide properties or functions (e.g., they catalyze reactions) that naturally modify the media since lipids do not have this type of function. The claims do not specify how the enzymes operatively

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modify the media. Furthermore, the enzymes are excreted by the microorganisms as required by the claims.

Responding to Applicant's argument that the claims never required the use of sweat as part of the claimed composition, the claims recite that only the lipid based media has the closed language of "consisting of". The claims do not exclude that the microorganisms can be provided as part of a sweat composition.

New Grounds of Rejection

Claims 43 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inazuka et al. (US 4,160,824; "Inazuka") in view of Braks et al. (2000) and Godfrey et al. (US 5,952,359; "Godfrey"; cited as a evidence document).

The claims are directed to a vertebrate host mimic and a method of producing a vertebrate host mimic for modifying the behavior of arthropods which are parasitic to vertebrate hosts by providing a lipid based media consisting of a glyceride, providing microorganisms or enzymes from said microorganisms that are of a type found on the skin of a vertebrate which operatively modify the media upon the lipid based media to produce a modified lipid based media, combining the lipid based media and the microorganisms or enzymes and collecting the modified lipid based media.

Inazuka discloses an insect attractive composition containing a neutralized acid-hydrolyzed defatted cereal protein (col. 1, lines 29-42). The composition further comprises a suitable solvent that can be fatty acid glycerides (from a list of 13 solvents). The composition is attractive to insects of the class *Diptera* (col. 2, lines 67).

Inazuka does not explicitly teach the selection of fatty acid glycerides for the solvent or a method wherein the composition further comprises providing microorganisms of a type found on the skin of a host vertebrate or enzymes thereof, combining said microorganisms or enzymes with the triglyceride and collecting the modified media.

Braks et al. disclose that human sweat contains microorganisms and that mosquitoes (*Aneopheles gambiae*) are attracted to human sweat that has enhanced microbial growth. Braks et al. discovered that sterilized sweat comprising microorganisms (instant claims 43 and 46, in part) that had been incubated for some time was the most effective for attracting mosquitoes compared to non-incubated or non-sterilized sweat (Table 1, p. 131). Braks et al. teach that the production of compounds that are attractive to mosquitoes is probably due to the skin bacteria processing sebum substrates (p. 133, bridging column). Bacteria on the skin naturally produce the claimed enzymes, instant claims 43 and 46, in part. The term “operative” is interpreted to mean that the enzymes bring a property to the lipid composition that the lipid is not able to operatively accomplish. The presence of the enzymes naturally operatively modifies the lipid since the enzymes bring properties (e.g., they catalyze reactions) that a lipid is unable to operatively accomplish.

Godfrey teaches that mosquitoes (*Aneopheles gambiae*) are a member of the class *Diptera* (col. 108, lines 11-12) Hence, the protein hydrozylate of Inazuka is attractive to mosquitoes.

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It would have been obvious to one of ordinary skill in the art, a biochemist, at the time the invention was made to employ fatty acid glycerides as the solvent for the defatted cereal protein hydrozylate of Inazuka. The ordinary artisan would have been motivated to do so because Inazuka teaches that fatty acid glycerides are one of a small genus of solvents (13) such that the selection of fatty acid glycerides is easily envisaged. The ordinary artisan would have had a reasonable expectation that fatty acid glycerides would serve as a suitable solvent for the protein hydrozylate of Inazuka since Inazuka teaches that it is suitable for said purpose. Since the cereal that is the source of the protein hydrozylate is defatted, the fatty acid glycerides are the only source of lipid in the composition.

It would have been obvious to one of ordinary skill, a biochemist, in the art at the time the invention was made to combine the composition of Inazuka (defatted cereal protein hydrozylate) and fatty acid glycerides and human sweat comprising microorganisms and enzymes to make an insect attractant. The ordinary artisan would have been motivated to do so because the sweat comprising microorganisms and enzymes and the protein hydrozylate have the same purpose: attracting insects. Since the composition components are known, it is considered prima facie obvious to combine them into a single composition useful for the very same purpose. At least additive therapeutic effects would have been reasonably expected since they are both known for the same purpose. *In re Kerkhoven*, 205 USPQ 1069 (CCPA 1980). Hence, making a composition having the protein hydrozylate, fatty acid glycerides and sweat comprising microorganisms and enzymes implicitly meets the claimed method limitations since

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composition comprising the glycerides and the microorganisms and enzyme have to be provided in order to combine them and collected to use them to attract insects.

Alternatively, it would have been obvious to one of ordinary skill in the art, a biochemist, to substitute the sweat composition comprising microorganisms and enzymes thereof taught by Braks for the protein hydrozylate component in the protein hydrozylate/glyceride composition taught by Inazuka. The ordinary artisan would have been motivated to do so because each component is known to have the same function, attracting insects. Hence, the substitution is no more than the predictable use of prior art elements according to their established functions resulting in the simple substitution of one known element for another. The ordinary artisan would have had a reasonable expectation that one could use a composition having sweat comprising microorganisms and enzymes thereof and triglycerides to attract insects since Braks shows that sweat alone attracts insects. Hence, making a composition having the fatty acid glycerides and sweat comprising microorganisms and enzymes implicitly meets the claimed method limitations since composition comprising the glycerides and the microorganisms and enzyme have to be provided in order to combine them and collected for use in attracting insects such as mosquitoes.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SUSAN HANLEY whose telephone number is (571)272-2508. The examiner can normally be reached on M-F 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Wityshyn can be reached on 571-272-0926. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sandra Saucier/

Primary Examiner, Art Unit 1651

/Susan Hanley/
Examiner, Art Unit 1651